

# The recent discovery of a new section of the malacological collection of Andrea Aradas

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## Abstract

The malacological collection of Andrea Aradas comprises material that he collected personally, specimens exchanged with several important malacologist (e.g. Benoit, Maravigna, Philippi, Monterosato), as well as entire collections he acquired during his scientific career (e.g. that of the abate Emiliano Guttadauro, who gave him his collection just before his death). The major part of Aradas collection, was acquired by the Natural History Museum of Milan, where it is still stored. However, some of his malacological material was dispersed in other collections, as the Monterosato's one, now stored in the Zoological Museum of Rome, or deposited in foreign Institutions as the United States National Museum of Washington.

A small malacological collection attributed to Aradas, found among the old biological material stored in the warehouse of the Department of Animal Biology "M. La Greca" of the University of Catania. This collection is totally inedited and, apparently, it has never been cited in the old literature. This contribution gives a first assessment of the preservation status and of the storical and scientific importance of this collection. Some material seems to be particularly important from a taxonomical point of view, such as the specimens of *Rissoa galvagni*, whose interpretation has always been problematic.

## Riassunto

La collezione malacologica di Andrea Aradas comprende materiale che tale illustre malacologo siciliano ha raccolto personalmente, ma anche materiale che egli nel tempo ha scambiato con illustri autori come Benoit, Maravigna, Philippi, Monterosato, nonché intere raccolte che ha acquisito nell'arco del suo cammino scientifico, come quello dell'abate Emiliano Guttadauro che gli cedette la sua raccolta poco prima di morire. Tale raccolta è conosciuta come "collezione Aradas e Benoit" poiché è comprensiva anche del materiale del collega, che servì per la compilazione della fondamentale opera "Conchigliologia marina" (Aradas & Benoit, 1872-76): essa fu acquisita dal Museo di Storia Naturale di Milano, dove è tuttora conservata. Attraverso citazioni bibliografiche fatte nel corso degli anni da vari autori, altro materiale aradasiano può essere rintracciato in vari musei del mondo facente parte delle collezioni dei sopracitati autori con cui ebbe corrispondenza: singoli lotti sono infatti presenti nella collezione Monterosato a Roma (Italia) ed in quella dello United States National Museum di Washington (USA). Nel sottoscala del Dipartimento di Biologia Animale "M. La Greca" dell'Università di Catania, di cui anticamente Andrea Aradas fu direttore e titolare della cattedra di zoologia, è stata in tempi recenti rinvenuta una piccola ma estremamente interessante collezione malacologica: tale materiale è stato affidato per la conservazione e lo studio del materiale all'autore della presente nota. Dopo le prime ricerche esso può essere con sicurezza attribuito ad Aradas e ne costituisce una sezione non ancora conosciuta. Il presente lavoro offre lo spunto di divulgare la notizia della scoperta di tale inedito materiale ed, al contempo, di sottolineare l'importanza scientifica ed esporre i primi dati scaturiti dallo studio preliminare del suo contenuto, il suo stato di conservazione ed un primo tentativo di valutarne l'inquadramento cronologico. Attualmente il lavoro primario riguarda la corretta conservazione del materiale, rappresentato sia dai lotti di conchiglie che dai cartellini autografi che li accompagnano, non soltanto scritti di pugno da Aradas, ma anche appartenenti ad altri autori attualmente ancora in fase di identificazione: alcuni moderni cartellini sono testimoni di rimaneggiamenti del materiale aradasiano subiti successivamente alla sua morte da anonimi curatori. In tale operazione è stata mantenuta la grossolana suddivisione dei lotti in cui è stata originariamente rinvenuta: Gasteropodi marini mediterranei ed esotici, Gasteropodi continentali europei ed esotici, Bivalvi e pochi altri taxa; è presente anche qualche lotto di conchiglie fossili. Alcune note di ordine tassonomico sono inserite a completamento del presente lavoro e che riguardano il materiale tipico di alcune specie, in particolare rissoidi: fra queste spicca per importanza "*Rissoa galvagni*", specie descritta da Aradas e Maggiore nel 1844, di cui viene qui riassunto l'attuale stato tassonomico alla luce del nuovo materiale rinvenuto, mentre la possibilità che questo *taxon* possa essere restaurato viene rimandato ad un prossimo futuro contributo.

## Key Words

Aradas collection, new section, malacology, types, Rissoidae, *Rissoa galvagni*.

## Introduction

Andrea Aradas was a doctor with an eclectic scientific interest, which made him a naturalist *tout court*, especially in the zoological field. A complete biography of

Aradas, who dead in 1882, was only recently produced by Sichel (2005), who particularly focused on his malacological studies in the framework of the scientific production of the Gioenia Academy of the Real University of Catania.

Aradas was one of the best malacologist of the Sicilian school (Priolo, 1948-68) and, as a naturalist, he begun his zoological studies on “zoophites”, insects and crustaceans, reaching malacology only at a later stage. However, he was very fecund in this latter field, publishing a lot of papers focused on Sicilian species, among which the seven memories of the “Catalogo Ragionato”; these memories were ideally started with the collaboration of Guttadauro but, after his premature death, were compiled together with Maggiore (Aradas & Maggiore, 1840-43). The main incentive to realise this first synthesis of the malacological studies of Sicily, derived from Philippi. These two authors, in fact, become good friends, particularly when the Prussian malacologist frequented Italy, and Sicily in particular, between 1830 and 1832; traces of this friendship can be found in the abundant number of citations, reciprocally made by both Authors in their papers and correspondence (see for example Philippi, 1842).

Aradas collected abundant malacological material, both recent and fossil, mainly of Sicilian origin. He increased his collection exchanging materials with a series of malacologist of the 19<sup>th</sup> century and acquiring entire collections by means of donations.

After the death of Andrea Aradas the collection followed uncertain destiny, until Priolo acquired both shells and bibliographic materials, preserving them from dispersion. In recent times the collection passed to the Civic Museum of Natural History of Milan (hereafter indicated by MNHM), as a gift by the widow Priolo (Brunckhorst & Willan, 1989). The entire collection is still there. This material represent the main bulk of specimens, but some Aradas’ type material has been spread in different museums, quite surprisingly ‘far’ from the historical theatre of these ancient Authors (see Verduin, 1984). However, the numerical entity of these lots is not easy to evaluate.

Few notes have been published about this ‘dispersed’ Aradas’ material as, for example, the interesting taxonomical notes reported by Gaglini (1994) about the rissoid *Setia scillae* and *S. sciutiana*, stored in the Monterosato collection now at the Zoological Museum of Rome (ZMR).

The new section of the Aradas collection here presented is inedited at all and was discovered in an old drawer stored at the Department of Animal Biology “M. La Greca” of the University of Catania (hereafter indicated as DABUC).

At the moment this material is under restoration and study. The condition of the material, the approximate number of lots and species constituting the collection as well as few considerations about the potential nomenclatural importance of some of these species are here reported.

## Results

### Description of the collection

On the whole, the Aradas’ material here studied, discovered at DABUC, is formed by 190 lots of marine gastropods (included fossil species), 93 lots of Bivalves, 1

of cephalopods (i.e. *Argonauta argo* L., 1758), 2 of scaphopods and 143 freshwater and continental molluscs (both gastropods and bivalves).

The collection was stored into a wood drawer, containing numerous lots of shells. Each lot included an external wood or metal box, without any tops, containing a glass vial of various shapes and dimensions, in which there was one to several shells (Fig. 1 d); bigger specimens sometimes were stored free, not included in vials. Two series of labels, with the same wording, occurred in each lot: one label, put externally to the box, more elegantly written (Fig. 1 d), and a second with a more informal handwriting, was inside the glass vial (Fig. 1 e). A lot of species of Adriatic origin was stored in cardboard little boxes, closed with sealing-wax, with taxonomical and collecting data of the material written on one of the external side of the box (Fig. 1 i). Single specimens have been found without any label, mixed together with other different species or loose in the bottom of the drawer.

### Labels of the lots and their interpretation

The main nucleus of the collection is referable to Aradas, on the basis of the calligraphic examination of the labels, compared with his sign (Fig. 1 a-c) found in Monterosso (1962). Some lots bear labels with different handwritings, mostly without the name of the collector. Some indications (i.e. “*Platania malacological collection Acireale*”) suggest as at least part of this material originates from other malacological collections, lately fused to that of Aradas. This material was obtained by exchange or by acquisition from other collectors (maybe the abbot E. Guttadauro, or other Sicilian collectors as G. Maggiore). These labels are now under study.

Most labels bear numbers which may indicate different things. Some, that have Aradas’ handwriting, may be related to an inventory of the malacological collection that, however, was never found; some others just report the original number of specimens contained inside the vial; some have not the Aradas’ handwriting, but seem to be coeval with this material or slightly following and, finally, modern numbers (typewriter’s? Clipping cut from a newspaper?) were stuck out on little box or directly on the shell of some lots (Fig. 1 l, n), which did not contain any other label. Part of the original labels brought an ancient nomenclature, corresponding to that of the “Catalogo”, only in a second time updated in the “Conchigliologia” (i.e. *Trochus laevigatus* Philippi, afterwards cited as *T. gualtieri* Philippi; *Rissoa mandralisci* Aradas & Maggiore subsequently synonymised with *R. glabrata* Muhlfeld); other labels showed instead a more recent nomenclature. A series of modern labels, biro ink written on a squared paper, with a modern nomenclature, substituted the original label of some lots (Fig. 1 g, h).

The actual status of the malacological material seems good, with the exception of some damaged specimens and/or labels. It is important to underline that micromolluscs species were remarkably more abundant than the big sized one, which are present only with few, mainly exotic species.



**Fig. 1. a-c.** Aradas' handwriting: **a.** Aradas' sign, **b.** label of one lot of material ("*Rissoa galvagni*"), **c.** detail of handwriting, **d.** one single lot in the original status; **e.** label inside a glass vial; **f.** current preservation and storage of lots: original labels and vials are stored with shells in a single modern plastic box; **h, g.** modern labels found among the materials of collection: **h.** an original label found together in the same lot with a modern label and vial, **g.** detail of the biro ink written label (note the scotch tape); **i.** a lot of species not in Aradas handwriting; **m.** lot of "*Helix aradasi*" (probable syntype) and two different handwriting labels; **l, n.** numbers stuck out on a shell and on a little box; **o.** one image of Andrea Aradas.

**Fig. 1. a-c.** Calligrafia di Aradas: **a.** firma di Aradas, **b.** etichetta di un lotto di materiale ("*Rissoa galvagni*"), **c.** dettaglio della scrittura; **d.** un lotto nel suo stato originale; **e.** una etichetta all'interno di una fiala di vetro; **f.** attuale fase di preservazione e di conservazione dei singoli lotti: etichette e fiale originali sono conservate assieme alle conchiglie all'interno di una sola moderna scatola in plastica; **h, g.** - Etichette moderne trovate fra il materiale della collezione. **h.** una etichetta originale rinvenuta nello stesso lotto assieme ad un'etichetta ed una fiala moderna, **g.** dettaglio dell'etichetta scritta con inchiostro a biro (si noti il nastro adesivo); **i.** uno dei lotti di specie non contrassegnati dalla calligrafia di Aradas; **m.** lotto di "*Helix aradasi*" (probabile sintipo) e due etichette con calligrafie diverse; **l, n.** numeri moderni attaccati su una conchiglia e su una piccola scatola; **o.** immagine ritraente Andrea Aradas.

Brunckhorst & Willan (1989), dealing with the taxonomy of *Phyllidia*, reported the impossibility to trace within Italian museums the Aradas' type material, consisting of at least three species. Since no wet materials were found in the Aradas' material here described, the types of *Phyllidia* have still to be considered lost.

### Taxonomical notes about some species

In the part of the collection already restored, some types of recent species of Rissoidae have been found, as *Rissoa mandralisci* Aradas & Maggiore, 1844, *R. galvagni* Aradas & Maggiore, 1844, which were found inside integral vials containing specimens and labels. Other species, as *R. benzi* Aradas & Maggiore, 1844, are instead present with one single lot of numerous unmistakable specimens, but lacking any label. Noteworthy is also the finding of a vial with the label *Alvania* n. sp., which is still under study.

Another aradasian taxon, *R. galvagni*, currently regarded as *nomen dubium* by Verduin (1984), on the basis of the lack of type material congruent to the description, can be now fully understood, thanks to the availability of this inedited material, and will be treated in a separate note.

### Discussion

The main nucleus of the collection belongs to Aradas and seems to be referable to the time when the "Catalogo Ragionato" was prepared, around 1835-45. The presence of numerous lots of non marine species, well represented and studied in the earlier works of Aradas and Aradas & Maggiore, seem to confirm this. The other material instead, probably originated from subsequent acquisitions, as some lots were clearly acquired by him only long after the first nucleus of the collection (i.e. *Clausilia vulcanica* ex Platania coll.). A more detailed study of the labels will probably clarify the origin of this material and, possibly, to ascribe it to other malacologists which collaborated with Aradas, such as L. Benoit, R.A. Philippi, C. Maravigna, D. Testa.

Within this material is also possible the presence of other more ancient lots, which date back to G. Gioeni D'Angiò (1747-1822), who founded the first natural history museum and gave beginning to the naturalist studies in Catania: his malacological collection, together with interesting notes on other collections of the 19<sup>th</sup> century, is in fact mentioned by Ms. J. Power (1839), who described the content and the abundance of lots (Priolo, 1948-68).

The presence of modern labels, which sometimes substituted the original labels, testify a first attempt of restoration made by an unknown curator who, unfortunately, produced damages to some lots of taxa, preventing any further taxonomical interpretation.

This is the case, for example, of the lot belonging to "*Rissoa soluta*" Philippi, 1844, a species that is not recognizable with certainty in any known Mediterranean species (Verduin, 1984) and is regarded as *nomen dubi-*

*um* due to the lost of its type material. This species in fact, is present in the collection with a modern label which was probably used to replace a damaged or a too worn original label during this first restoration attempt. Without the original label it is now impossible to ascertain if these shells were donated to Aradas directly by the Prussian Author, who was a collaborating with him at that time, preventing any further interpretation of the matter.

The condition of the largest part of the collection is instead rather in good state, although it lies in a general disorder, due to the translocation of some labels or vials, removed from the original boxes. Therefore, at the moment, the most important undergoing work is the correct preservation and inventory of materials (Fig. 1. f).

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